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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/774,403

02/10/2004

Akio Maeda

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7590

11/21/2005

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EXAMINER

KANG, JULIANA K

ART UNIT

PAPER NUMBER

2874

DATE MAILED: 11/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/774,403

Applicant(s)

MAEDA, AKIO

Examiner

Juliana K. Kang

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) 7-11 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2/10/04, 1/4/05
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

1. Applicant's election without traverse of Group I, claims 1-6, in the reply filed on October 19, 2005 is acknowledged. Claims 7-11 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-3, 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamane et al and further in view of Leibovitz et al (U.S. Patent 6,268,656 B1).

Yamane et al disclose all the claimed invention including a dummy electrode (20) and protective members (10) that are in abutment against the dummy electrode and forming the electrodes by electroplating of gold. However, Yamane et al do not teach that the dummy electrode surrounds all the signal electrodes and grounding electrodes and also do not teach forming the electrodes by electroless plating of Cu. Leibovitz et al

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teach semiconductor device fabrication wherein a dummy metal pattern (306) surrounds the die (304) by various forming methods including electroless plating (see column 4 lines 40-58) to provide uniform current density across the die pattern (see column 2 lines 47-60) resulting efficient production process (see column 2 lines 1-16). Since Yamane et al and Leibovitz et al are from same field of endeavor, it would have been obvious to one having ordinary skill in the art at the time the invention was made to apply teaching of Leibovitz et al in Yamane et al to provide efficient production process.

5. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamane et al and Leibovitz et al and further in view of Swanson et al (WO 97/12440).

As described above Yamane et al and Leibovitz et al teach the claimed invention except the grounding electrodes that is rectangular and has an area enlarged portions at the four corners. Swanson et al teach placing a conductor network (31, dummy electrode) that is rectangular and has area enlarged portions at the four corners of a wafer having a plurality of chips (see Fig. 4a and page 5 lines 11-22). Since Yamane et al, Leibovitz et al and Swanson et al are from same field of endeavor, it would have been obvious to one having ordinary skill in the art at the time the invention was made to apply any other shapes such as one that is shown by Swanson et al in Yamane et al and Leibovitz et al as long as the dummy metal pattern are placed at the outer edge of the die to provide the uniform current density to obtain efficient production process.

Conclusion

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6. The prior art documents submitted by applicant have been considered and made of record (note the attached copy of form PTO-1449).

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Shafer et al (U.S. Patent 6,044,184) teach metallization on the side surfaces of the chip (see Fig. 4).

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Juliana K. Kang whose telephone number is (571) 272-2348. The examiner can normally be reached on Mon. & Thur. 8:00-2:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rod Bovernick can be reached on (571) 272-2344. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JULIANA KANG
PRIMARY EXAMINER

Juliana Kang
11/9/05